Order No. MAC0108052C1

E9

Service Manual

Room Air Conditioner

CW-XC103VU / CW-XC123VU

SPECIFICATIONS

	Specification	
Model	CW-XC103VU	CW-XC123VU
Phase	Single	Single
Voltage	115 V	115 V
Frequency	60 Hz	60 Hz
Cooling Capacity	2.93 kW	3.37 kW
	10,000 Btu/h	11,500 Btu/h
Running Current	8.7 A	9.8 A
Input Power	0.98 kW	1.12 kW
EER	10.2 Btu/W.h	10.2 Btu/W.h
Starting Current	35 A	48 A
Compressor Output	700 W	750 W
Fan Motor Output	45 W	45 W
Noise Level	Indoor (High / Low):	Indoor (High / Low):
	50 / 46 dB(A)	51 / 47 dB(A)
	Outdoor (High / Low):	Outdoor (High / Low):
	57 / 54 dB(A)	58 / 55 dB(A)
Moisture Removal	1.2 Ltr/h	1.4 Ltr/h
	2.5 Pint/h	3.0 Pint/h
Air Circulation	9.1 m^3/min.	9.3 m^3/min.
	320 Ft^3/min.	330 Ft^3/min.

Model	CW-XC103VU	CW-XC123VU
Dimensions	Height: 375 mm (14-25/32 inches) Width: 560 mm (22-1/16 inches) Depth: 606 mm (23-27/32 inches)	Height: 375 mm (14-25/32 inches) Width: 560 mm (22-1/16 inches) Depth: 606 mm (23-27/32 inches)
Net Weight	35 kg 77 lb	35 kg 77 lb
Gross Weight	39 kg 86 lb	39 kg 86 lb
Refrigerant (R-22)	450 g 15.9 oz	950 g 19.4 oz

Note: Specifications are subject to change without notice for further improvement.

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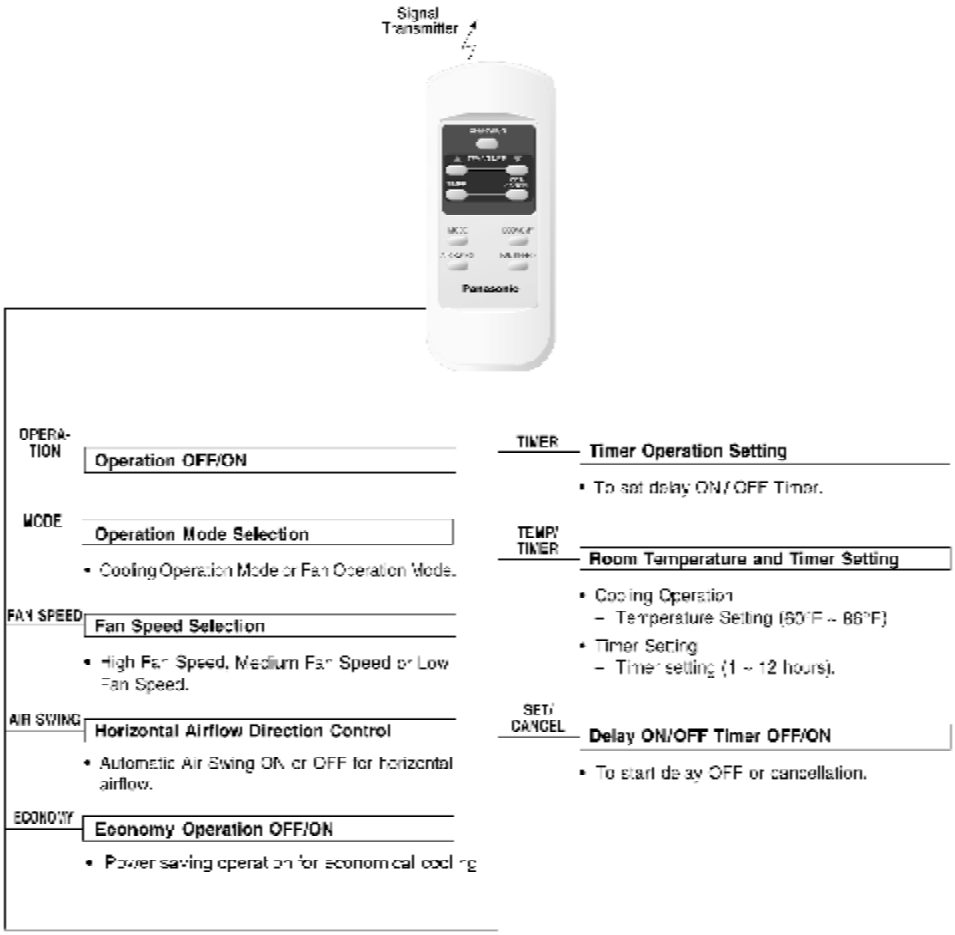
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

1. Functions

1.1. Remote Control


Signal Transmitter
Panasonic
OPERATION
Operation OFF/ON
MODE
Operation Mode Selection
• Cooling Operation Mode or Fan Operation Mode.
FAN SPEED
Fan Speed Selection
• High Fan Speed, Medium Fan Speed or Low Fan Speed.
AIR SWING
Horizontal Airflow Direction Control
• Automatic Air Swing ON or OFF for horizontal airflow.
ECONOMY
Economy Operation OFF/ON
• Power saving operation for economical cooling
TIMER
Timer Operation Setting
• To set delay ON / OFF Timer.
TEMP/ TIMER
Room Temperature and Timer Setting
• Cooling Operation
– Temperature Setting (60°F ~ 86°F)
• Timer Setting
– Timer setting (1 ~ 12 hours).
SET/ CANCEL
Delay ON/OFF Timer OFF/ON
• To start delay OFF or cancellation.

1.2. Main Unit

OPERATION
Operation OFF/ON

Remote Control Signal Receiving Sound
- Can be enable/disable by pressing down Operation OFF/ON button for 10 seconds.

Operation Indicator Light (LED'S)
- **MODE**
  COOL (Green) ..... Lights up in Cooling Mode Operation.
  FAN (Orange) ..... Lights up in Fan Mode Operation.
- **FAN SPEED**
  HIGH (Orange) ..... Lights up in High Fan Speed Operation.
  MED (Orange) ..... Lights up in Medium Fan Speed Operation.
  LOW (Orange) ..... Lights up in Low Fan Speed Operation.
- **TIMER** (Orange) ..... Lights up in Timer Setting.
- **ECONOMY** (Orange) ..... Lights up in Economy Operation.

MODE
Operation Mode Selection
- Cooling or Fan Mode.

FAN SPEED
Fan Speed Selection
- High, Medium or Low Speed.

AIR SWING
Airflow Direction Control
- Automatic Air Swing ON or OFF for horizontal airflow. (Manually adjusted by hand for vertical airflow.)

ECONOMY
Economy Operation OFF/ON
- Power saving operation for economical cooling.

TIMER
Timer Operation Setting
- To set delay ON / OFF Timer.

TEMP/ TIMER
Room Temperature and Timer Setting
- Cooling Operation.
  - Temperature setting (60°F~86°F).
- Timer Setting.
  - Timer Setting (1~12 hours).

SET/ CANCEL
Delay ON/OFF Timer OFF/ON
- To start delay OFF or cancellation.

Random Auto Restart Control
- Random auto restart after power failure at previous setting mode.

Freeze Prevention Control
- Freeze prevention control for the Evaporator. (Cooling Operation Only)

Starting Current Control
- Fan Motor is delayed for 1.5 seconds when Compressor starts simultaneously.

Time Delay Safety Control
- Restarting is inhibited for approximately 3 minutes.

7 Minutes Time Save Control
- Cooling operation only.

60 Secs. Forced Operation Control
- Once the compressor is activated, it does not stop within the first 60 seconds. However, it stops immediately with remote control stop signal.

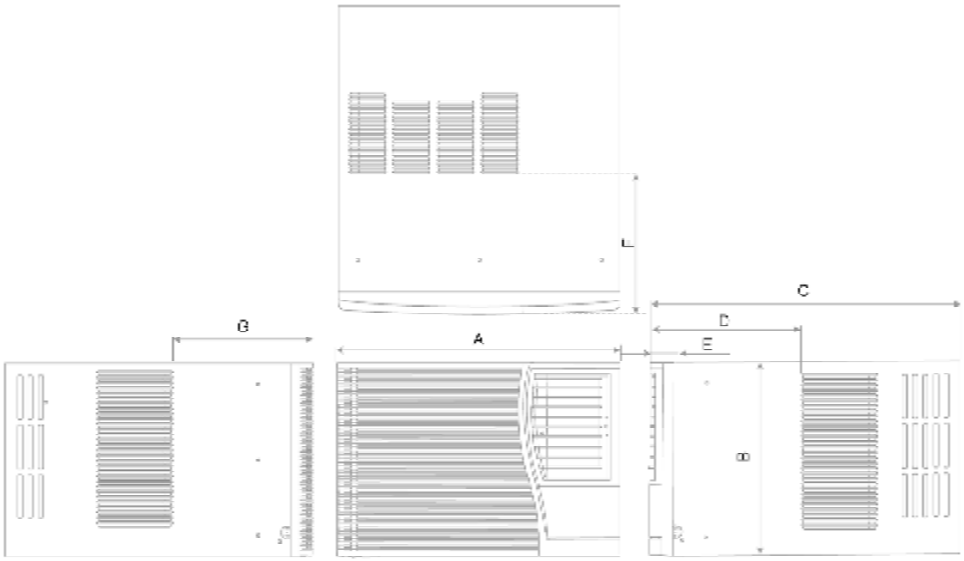
Compressor Reverse Rotation Protection Control
- To protect compressor from reverse rotation when there is an instantaneous power failure.

Overload Protector

2. Dimensions

2.1. CW-XC103VU / CW-XC123VU /

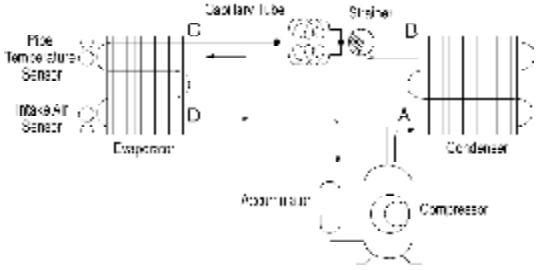
2.1.1. Top View, Front View and Side View.



Item	Unit: Inch (mm)
A - Width	22-1/16” (560)
B - Height	14-25/32” (375)
C - Depth	23-27/32” (606)
D	11-9/16” (294)
E	1-13/16” (46)
F	11-3/32” (281.6)
G	11-3/32” (281.6)

3. Refrigeration Cycle Diagram

3.1. CW-XC103VU / CW-XC123VU /



3.2. CW-XC103VU

Item	Pressure (PSI)	Temperature (°F)
A	278.47 ~ 285.72	150 ~ 158
B	274.12 ~ 281.37	97 ~ 105
C	84.02 ~ 94.27	50 ~ 58
D	81.22 ~ 88.47	51 ~ 59

Note: Indoor temperature at 80°F (DB), 67°F (WB) and Outdoor at 95°F (DB), 75°F (WB).

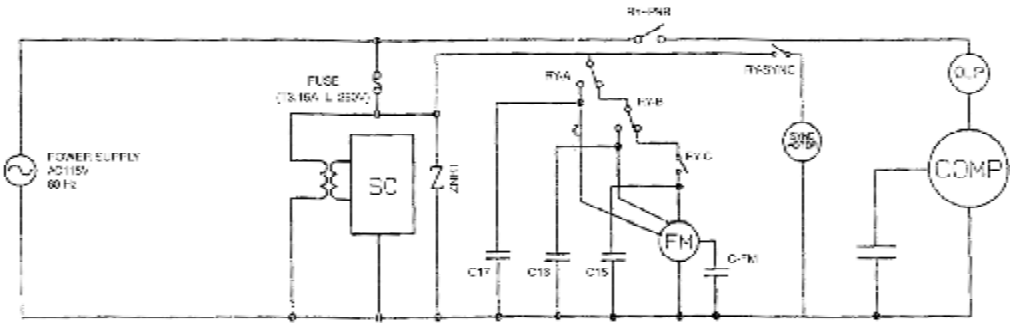
3.3. CW-XC123VU

Item	Pressure (PSI)	Temperature (°F)
A	285.72 ~ 292.98	156 ~ 164
B	281.37 ~ 288.63	100 ~ 108
C	82.67 ~ 89.92	46 ~ 54
D	76.87 ~ 84.12	50 ~ 58

Note: Indoor temperature at 80°F (DB), 67°F (WB) and Outdoor at 95°F (DB), 75°F (WB).

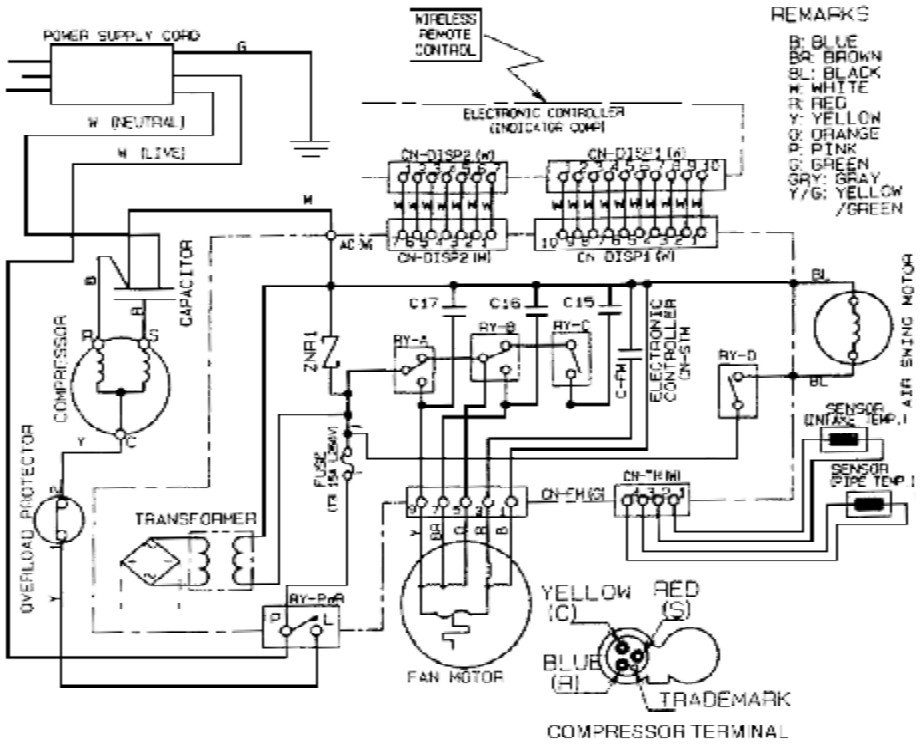
4. Block Diagram

4.1. CW-XC103VU / CW-XC123VU /



5. Wiring Diagram

5.1. CW-XC103VU / CW-XC123VU /



5.2. Resistance of Fan Motor windings and the rated Capacitor.

Model	CW-XC103VU & CW-XC123VU
Connection	CWA951177
Blue - Yellow	36.7 Ω
Yellow - Brown	6.91 Ω
Brown - Orange	7.69 Ω
Red - Yellow	36.0 Ω
Capacitor	CWA981062 (10 μF, 230VAC)

5.3. Resistance of Compressor windings and the rated Capacitor.

Model	CW-XC103VU	CW-XC123VU
Connection	2P17C3R126B-SA	2P15C3R126B-SA
C-R	0.690 Ω	0.724 Ω
C-S	2.429 Ω	2.168 Ω
Capacitor	F0GAF406A001 (45 μF, 250VAC)	- (45 μF, 250VAC)

Note: Resistance at 68°F of Ambient Temperature.

6. Air Conditioner Performance Evaluation

Suction & Discharge Air Temperature Difference	Current	Determination	Remedy
-8°C and over (14.4°F)	-As specified.	-Nothing wrong.	-None.
-8°C and over (14.4°F)	-Higher than specified.	-Nothing wrong, outdoor temperature is too high, heat radiation is not efficient.	-Improve heat radiation.
-Under 8°C (14.4°F)	-Higher than specified.	-Something is preventing heat radiation.	-Excessive amount of refrig -Improve heat radiation.
-Under 8°C (14.4°F)	-Lower than specified.	-Leakage of refrigerant or refrigerant system is blocked.	-Locate and repair leak. -Flush refrigeration cycle.
-Under 8°C (14.4°F)	-Higher than specified by 50%.	-Compressor defect.	-Replace the compressor.

Note: Room air humidity is relatively higher, the temperature difference will be smaller.

7. Troubleshooting Guide

Warning: Disconnect unit from electrical power supply before making any electrical checks.

Trouble	Check	Result	Cause	Remedy
Fan Motor and Compressor won't run.	-Supply Voltage -Fuse Box or Circuit Breaker. -Power cord or Wiring Harness. -Temp. Setting.	-Less than 10% by Rated. -Open Contacts. -Pulled loose or Shorted. -Higher than ROOM TEMP.	-Customer Restarted unit immediately without waiting 3 minutes.	-Consult ELECTRICIA -Repair Open Circuit. -WAIT FOR 3 MINUTE -Repair or Replace it. -Set it LOWER.
Fan Motor won't run.	-Objects around Fan. -RESISTANCE between Wires. -Capacitor Fan Motor.	-Locked Fan. -Shorted/ Open circuit. -OHM Meter doesn't Deflect.	-Fan Hitting Cowling or -Foreign Materials. -Frozen Bearings. -Shorted or Burned out. -Capacitor Defect.	-Adjust Fan position s screw. -Remove Foreign Mat -Replace Fan Motor. -Replace Fan Motor. -Replace Capacitor Fa
Compressor won't run (Fan Runs).	-Temp. setting. -RESISTANCE between Terminal and the Compressor Body. -RESISTANCE between Terminals. -Capacitor Compressor. -Overload Protector.	-Higher than room temperature. -Shorted. -Shorted. -OHM Meter doesn't deflect. -Infinity between Terminals.	-Winding Coil touched to the Body. -Rare Shorted or Burnt out. -Capacitor defect. -Overload Protector defect.	-Set it lower. -Replace Compressor -Replace Compressor -Replace Capacitor Compressor. -Replace Overload Pr
Insufficient cooling.	-Temp. Setting. -Ventilation Door open. -Air filter dirty. -Location of installation. -Evaporator/Condenser Coil obstructed. -Unit capacity for the room too small. -Temp difference and running current.	-Higher than room temperature. -Open -Clogged or dirty. -Sunlight hitting outdoor side. -Obstacles. -Clogged or dirty. -Not satisfied. -REFER PERFORMANCE EVALUATION.	-Reduce capacity. -Restricted air circulation. -Restricted Heat Exchanger. -Restricted Heat Exchanger. -Restricted air circulation -Leakage of refrigerant or refrigeration system is blocked.	-Set it lower. -Close Vent door. -Clean or Replace Air -Consider building an -Remove obstacles o unit. -Clean using steam cl -Replace the unit with one. -Locate repair leak. -Flush refrigeration cy

Trouble	Check	Result	Cause	Remedy
Noise.	-Source of Noise	-Vibration. -Intermittent Noise.	-Faulty installation. -Fan hitting objects. -Refrigerant tubing touching each other. -Fan splashing Drain Water.	-Reinstall unit or Rein installation. -Adjust Fan position c foreign materials. -About 1/2" Clearance -Remove drain plug a a drain pan to remove -Set the Drain outlet d so that the Drain wate off.
Water dripping inside room.	-Unit installation. -Drain Tray-STYROFOAM pieces blocking Drain Channel.	-Tilted to inside room. -Clogged.	-Restricted run off. -Clogged or blocked.	-Tilt unit to outside sli -Remove the foreign r

8. Operation Details

8.1. Fan Mode Operation

- Fan operation only. Fan in operation according to Remote Control or Main Unit (Touch Control Panel) setting.

8.1.1. Manual Setting of Fan Speed

- Basic Fan Speed can be manually adjusted (Lo, Med or Hi) by using the Fan Speed Selection Button/Pad at Remote Control or Main Unit (Touch Control Panel).

8.2. Cooling Mode Operation

- Cooling in operation according to Remote Control or Main Unit (Touch Control Panel) setting.

8.2.1. Time Delay Safety Control (3 minute)

- When the compressor is stopped by Operation Switch at the Remote Control or Main Unit (Touch Control Panel), it restart after 3 minutes when the Operation Switch at the Remote Control or Main Unit (Touch Control Panel) is turned ON.
- When the setting temperature is reached during cooling operation, the compressor stops and it will not start for 3 minutes.
- Protection of compressor to balance the pressure in the refrigeration cycle for 3 minutes.

8.2.2. 7 minutes Time Saved Control

- The compressor will start automatically if it has stopped for 7 minutes even if the room temperature is between the compressor ON temperature and OFF temperature.

8.2.3. Starting Current Control

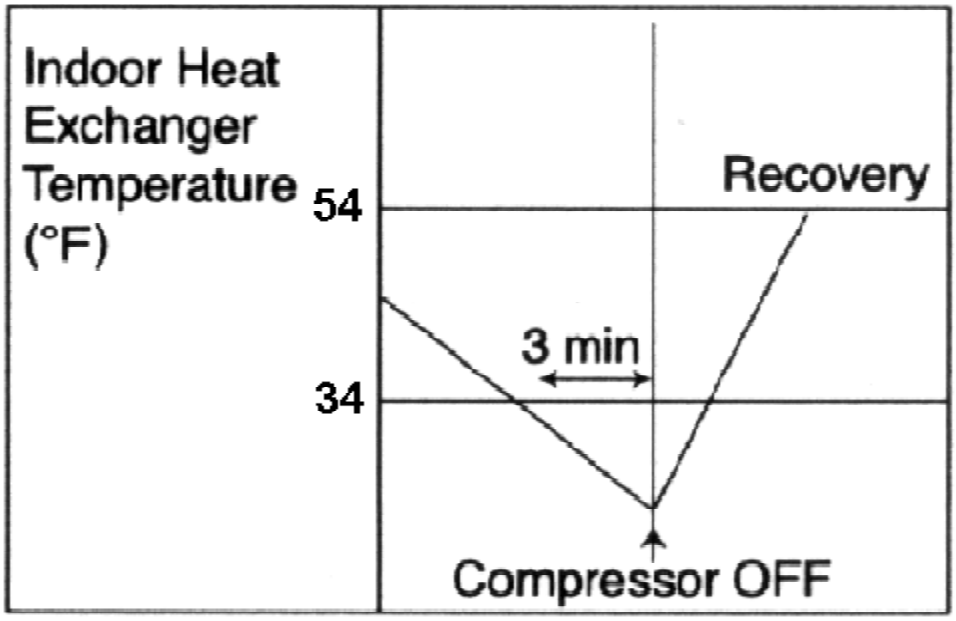
- When the compressor and fan motor are simultaneously started, the fan motor will operate 1.6 seconds later.

8.2.4. Freeze Prevention Control

- If the temperature of the indoor heat exchanger falls continuously below 34°F for 3 minutes or more, the compressor turns off to protect the heat exchanger from freezing. The fan speed setting remains the same.

- Compressor restarts when the heat exchanger temperature rises to 54°F (Recovery).

***3 minutes waiting of Time Delay Safety Control is valid for Cooling Operation.**

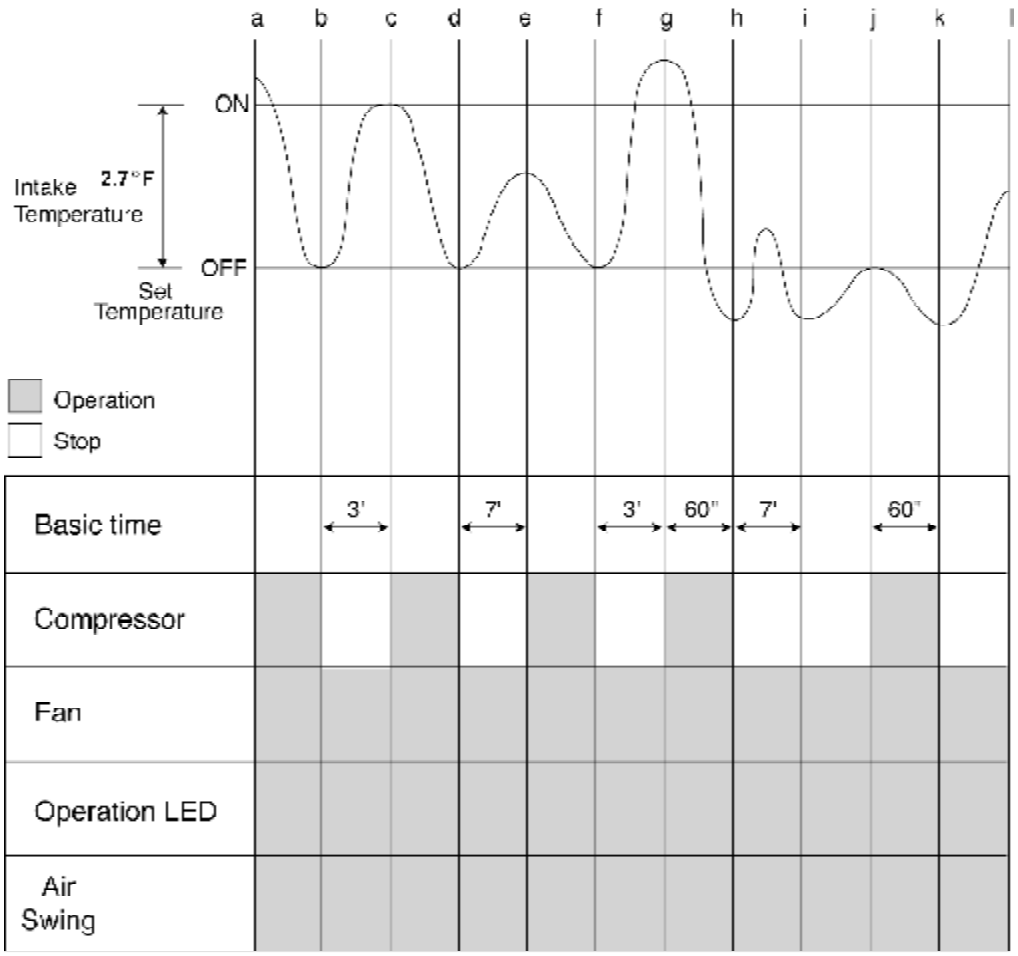


8.2.5. Compressor Reverse Rotation Protection Control

- If the compressor is operating continuously for 5 minutes or longer and the temperature difference between intake air and heat exchanger is 4.5°F or less for 2 minutes, compressor will stop and restart automatically (Time Delay Safety Control is valid).

• ▲T = Intake air temperature – Indoor heat exchanger temperature
This is to protect reverse rotation of the compressor when there is an instantaneous power failure.

8.2.6. Cooling Operation Time Diagram



< Description of operation >
b – c : Time Delay Safety Control (waiting for 3 minutes).
d – e : 7 minutes Time Saved Control.
g – h : 60 sec. forcible operation.

8.3. Economy Operation

- Purpose of this operation is for electricity cost saving.

- When Economy button is pressed, target temperature is shifted up 1°F, this will reduce operating time of the compressor and therefore reduce power consumption. It may, however, take a little longer for the compressor to cycle on and thereby increase the room temperature slightly.

- Compressor stops when the room temperature reaches the target temperature. It turns on again when the room temperature rises.

- This operation automatically will be running under Low Fan Speed.

- Economy operation will stop if:-

- Economy button/Pad is pressed again.

- Stopped by ON/OFF operation.
- Timer OFF activates.

8.4. Random Auto Restart Control

- If there is a power failure, operation will be automatically restarted after 3 to 4 minutes when the power is resumed.
  It will start with previous operation mode and airflow direction (Time Delay Safety Control is valid) as the operation was not stopped by Remote Control or Main Unit (Touch Control Panel).
- Restart time is decided randomly with 5 parameters:-
- Intake air temperature.
- Setting temperature.
- Fan speed.
- Air Swing blade position.
- Indoor heat exchanger temperature.
- Auto Restart Control is not available when Timer is set.
- If Economy operation is set during power failure, Economy operation will not start automatically along with previous operation mode after power resume.
- This control can be omitted by opening jumper JX1.

8.5. Fan Speed Control

- Manual Fan Speed Control
  Basic fan speed adjustment (3 setting, from Lo, Med to Hi) can be carried out by using the Fan Speed Selection Button/Pad at the Remote Control or Main Unit (Touch Control Panel).

Mode	Fan setting		Fan Speed		
			Hi	Me	Lo
Cooling	Manual	Normal	o	o	o
		Economy			o
Fan	Manual	Normal	o	o	o

8.6. Airflow Direction Control

8.6.1. Horizontal Airflow Direction

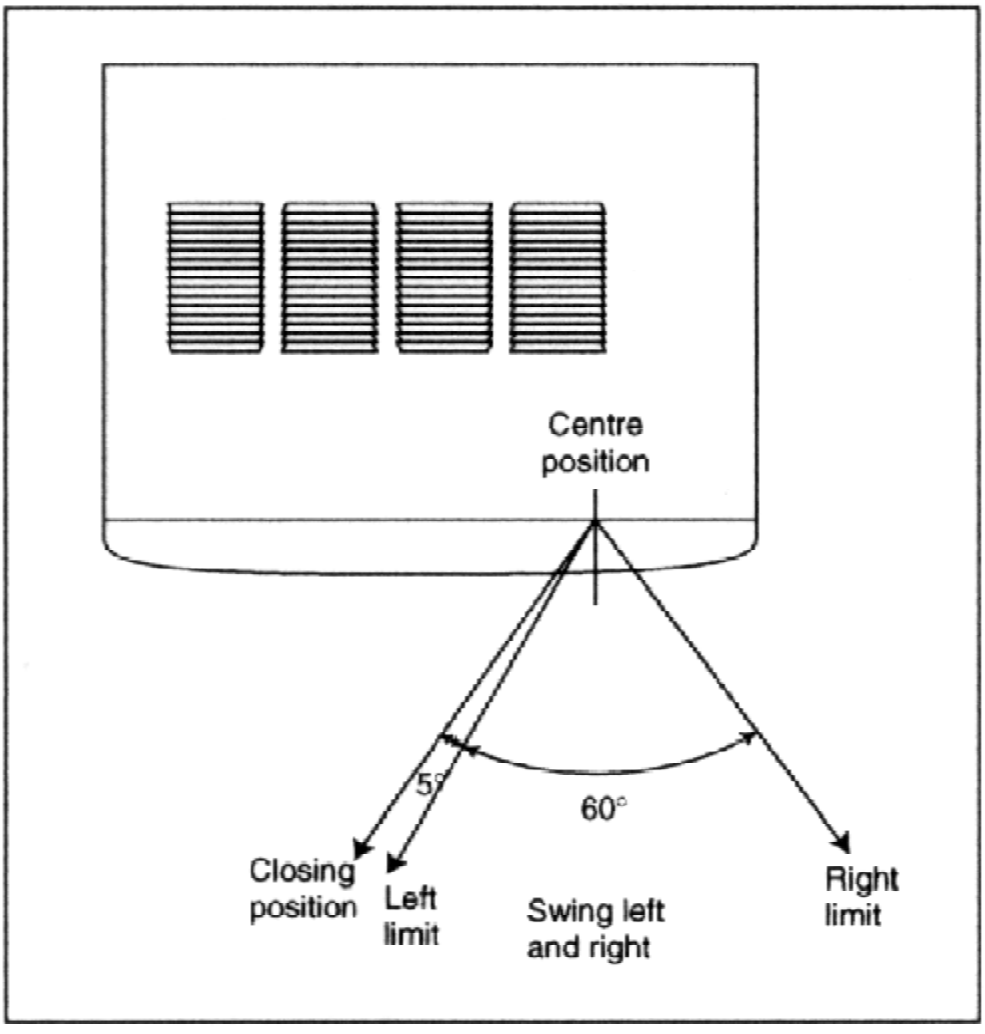
- When Air Swing Button/Pad is pressed with Remote Control or

Main Unit (Touch Control Panel) in the Auto Airflow, the airflow direction louver swings side to side within the full swing range as shown in the “Diagram”.

- The louver can be adjusted by pressing the Button/Pad again at the Remote Control or Main Unit (Touch Control Panel) to the desired louver position.

- When stopped with Remote Control or Main Unit (Touch Control Panel), the louver vane is reset, and stopped at the closing position.

“Diagram”



8.6.2. Vertical Airflow Direction

- The upward and downward airflow direction vane can be adjusted manually by hand.

8.7. Remote Control Signal Receiving Sound

- To switch off the beep sound.

Press the “Operation OFF/ON Pad“ at the main unit continuously for 10 second or more.

Repeat the above if you want to switch ON the “beep” sound.

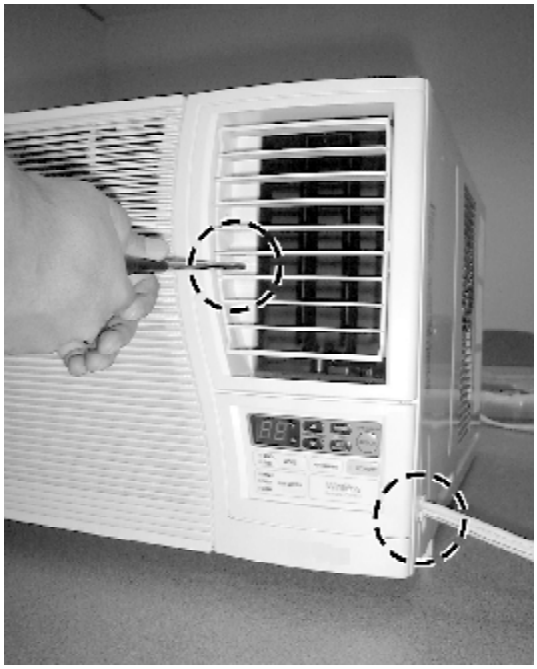
***However, if the “Operation OFF/ON Pad” have been pressed, the previous operation mode will be activated. If you do not require this operation, you may change it by using the Main Unit (Touch Control Panel).**

9. Operationg Instructions

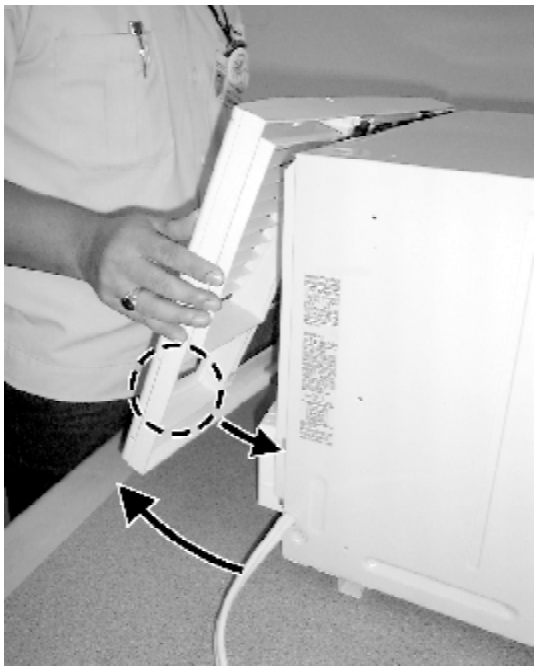
10. Service Information

10.1. Control Board Removal Procedure

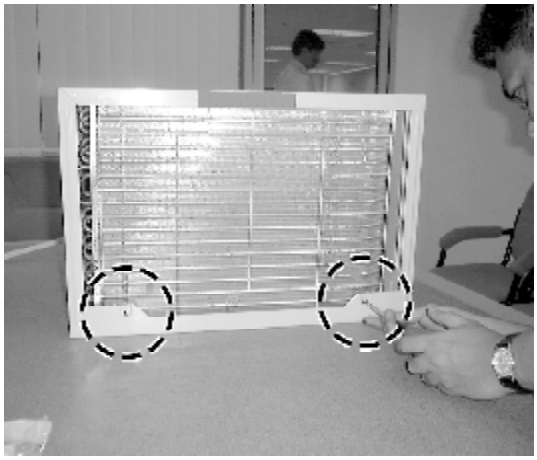
1. Remove the screws at the front and both sides of the chassis as shown below:



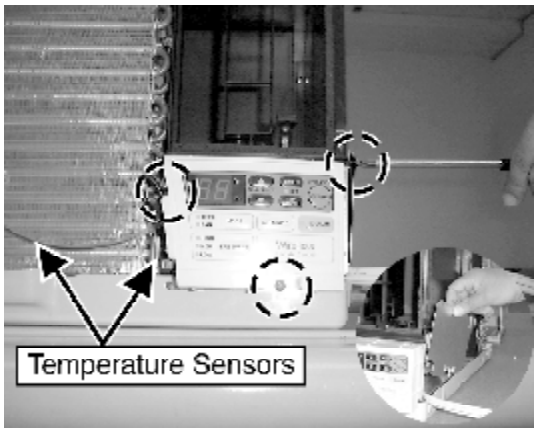
2. Release the tabs at both sides of the chassis (dotted circle) and then pull out the chassis as direction shown (arrow).



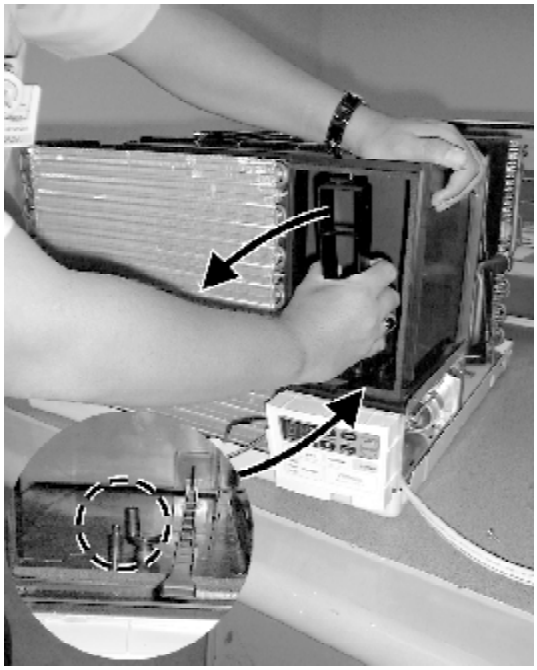
3. Remove two screws at the back of the chassis.



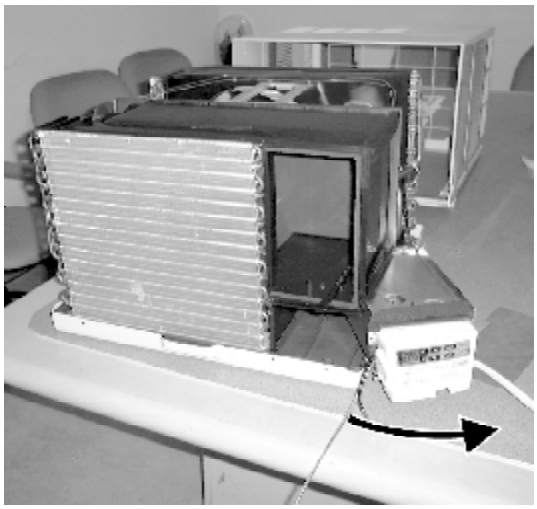
4. Remove three screws (dotted circle) and release both piping and intake air temperature sensor. Then, take out the side plate as shown below:



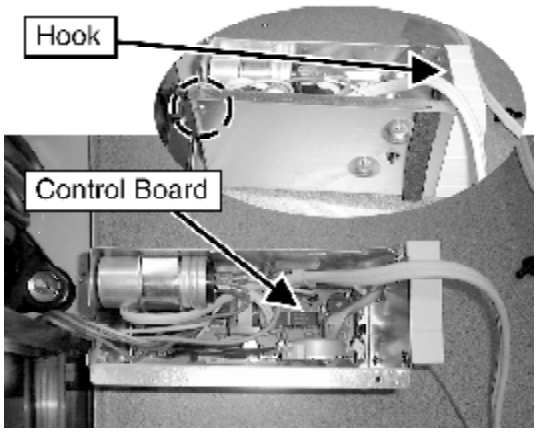
5. **Hold the top part of horizontal vane and pull it out as shown in the below figure. Then, remove the shaft (dotted circle) inside the compartment.**



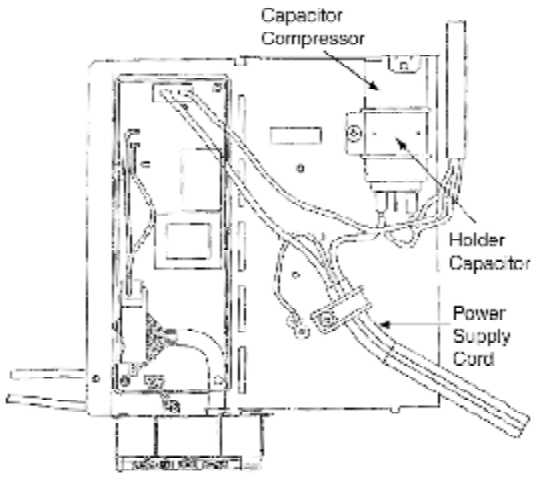
6. **Pull out the control board as shown in below figure:**



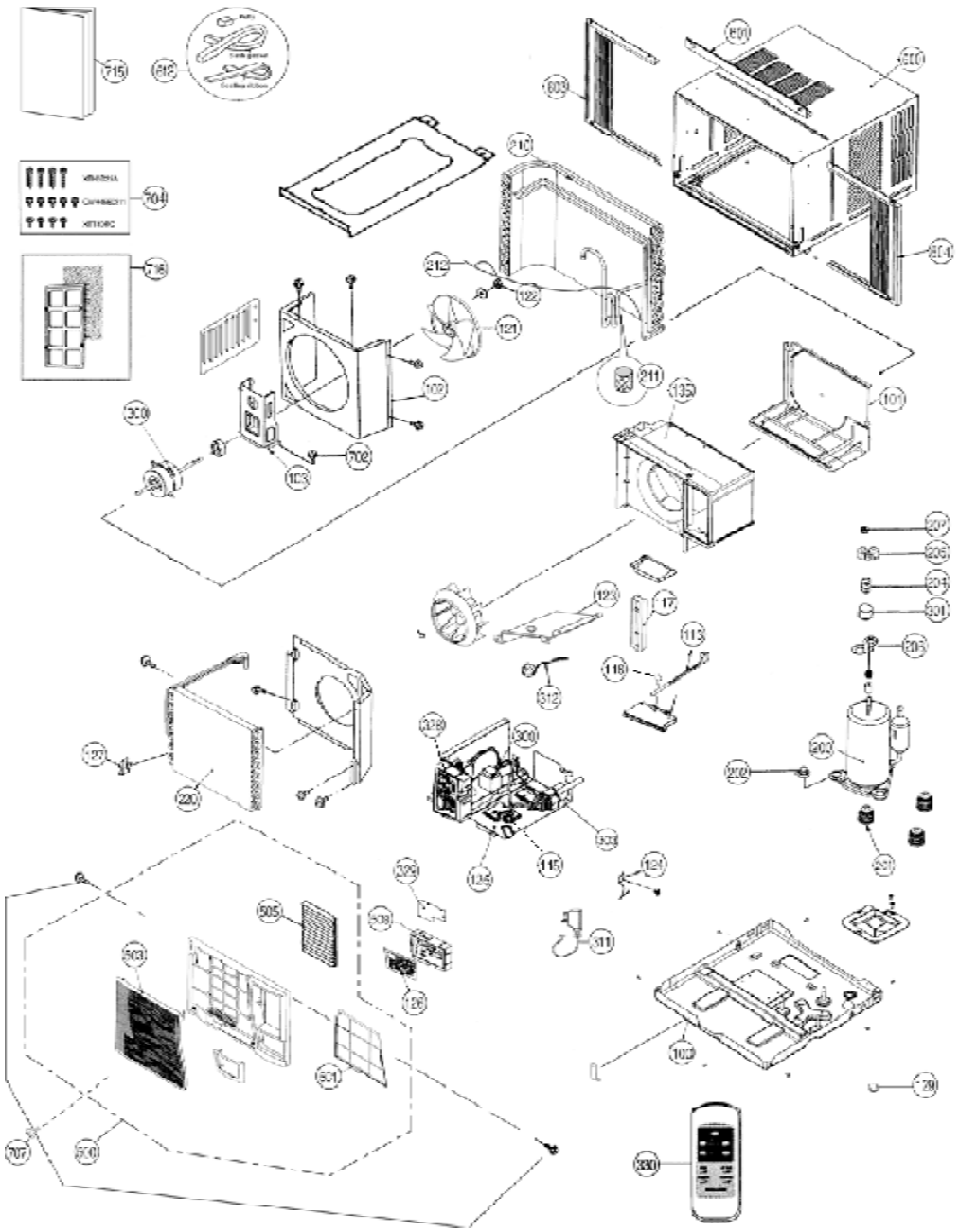
7. Electronic controller is inside the control board. Remove the screw (dotted circle), release the hook and the bend the side plate out the electronic controller.



- Control Board part location.



11. Exploded View



(Note)

- The above exploded view is for the purpose of parts disassembly and replacement.

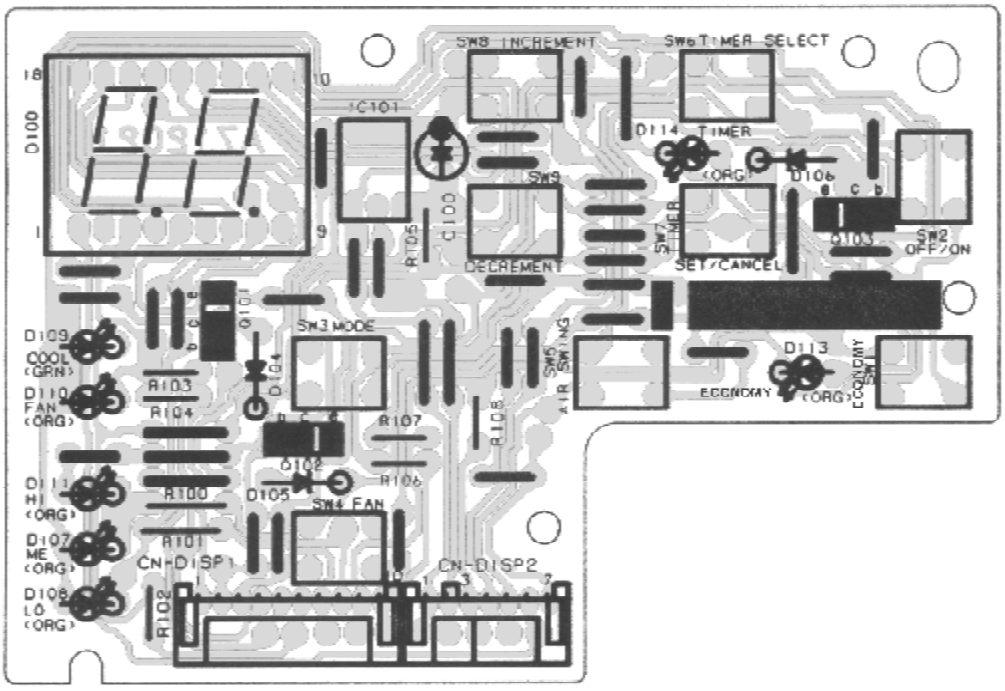
- The non-numbered parts are not kept as standard service parts.

12. Replacement Part List

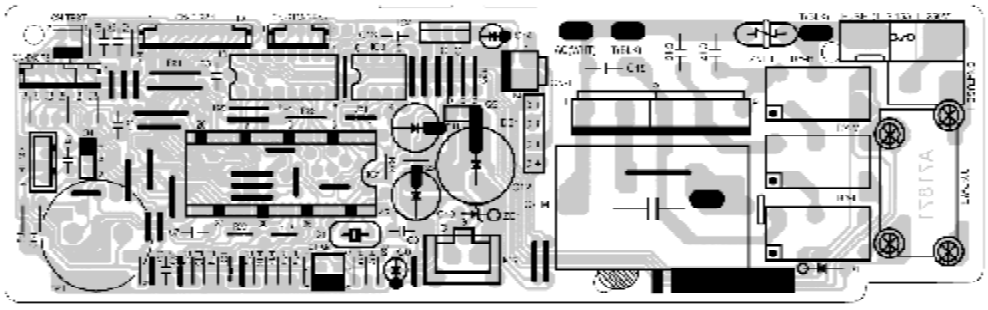
Ref. No.	Part Name & Description	Qty.	CW-XC103VU	CW-XC123VU	Remarks
100	Base Pan Complete	1	CWD52K1048A	<----	
101	Bulkhead Complete	1	CWD531010	<----	
102	Air Guide - Propeller Fan	1	CWD311015	<----	
103	Bracket - Fan Motor	1	CWD541037	<----	
113	Ventilation Lever	1	CWH221005	<----	
115	Control Board (Indicator)	1	CWH102142	NIL	
116	Connecting Bar - Air Swing Vanes	1	CWE261039	NIL	
117	Vane - Air Swing	1	CWE241094	<----	
121	Propeller Fan	1	CWH001002	<----	
122	Nut - Propeller Fan	1	CWH56032	<----	
123	Holder - Air Swing Motor	1	CWD911028	<----	
124	Holder - Capacitor (Compressor)	1	CWH301033	<----	
125	Control Board (Main)	1	CWH102139	<----	
126	Control Board (Front)	1	CWH102143	<----	
127	Holder - Sensor	1	CWH32142	<----	
129	Drain Plug - Base Pan	1	CWH4611062	<----	
135	Air Guide - Blower Wheel	1	CWD321040	<----	
200	Compressor	1	CWB09623	CWB09624	
201	Bushing - Compressor Mount	3	CWH50055	<----	
202	Nut - Compressor Mount	3	CWH4582065	<----	
203	Gasket - Terminal Cover	1	CWH7070603U	<----	
204	Holder - Overload Protector	1	CWH7041200	<----	
205	Terminal Cover - Compressor	1	CWH7070205U	<----	
207	Nut - Terminal Cover	1	CWH7080300	<----	
210	Condenser	1	CWB32C1184	CWB32C1178	
211	Strainer	2	CWB11101	<----	
212	Capillary Tube	1	CWB152117	<----	
220	Evaporator	1	CWB30C1181	CWB30C1182	
300	Fan Motor	1	CWA951177	CWA951178	
301	Overload Protector	1	CWA12126	CWA121036	
303	Capacitor - Compressor	1	F0GAF406A001 (45 μF, 250VAC)	NIL	
308	Sensor Complete	1	CWA50C2096	<----	
311	Power Supply Cord	1	CWA20C2242	NIL	
312	Air Swing Motor	1	CWA98162	NIL	
328	Electronic Controller (Main)	1	CWA742696	NIL	
329	Electronic Controller (Indicator)	1	CWA742289	<----	
330	Remote Control Complete	1	CWA75C2065	<----	
500	Front Grille Complete	1	CWE11C2564	<----	
501	Air Filter	1	CWD001062	<----	
503	Intake Grille	1	CWE221053	<----	
505	Vane	1	CWE241093	<----	
508	Control Panel	1	CWE312223	NIL	
600	Cabinet Complete	1	CWE00C1049	<----	
601	Top Angle	1	CWD62209A	<----	
603	Expandable Panel (Right)	1	CWH36C1011	<----	
604	Expandable Panel (Left)	1	CWH36C1012	<----	
612	Aux. Material - Installation	1	CWG86C401	<----	
702	Screw - Bracket Fan Motor	4	CWH55101	<----	
704	Screw - Bag Complete (Installation)	1	CWH82C1117	<----	
707	Screw - Front Grille Mount	1	CWH82C1118	<----	
715	Operating Instructions	1	CWF563446	<----	
716	Frame - E+Filter	1	CWD931046	<----	

- The above parts are kept for seven years in accordance with MEI service policy.
- However, longer lead time will be taken in supplying the non-numbered parts.
- All parts are supplied from MAICO, Malaysia (Vendor Code: 061).
- (A): Optional part.
- (B): Supplied through sales route.

13. Electronic Circuit / Indicator Complete



14. Electronic Circuit / Main

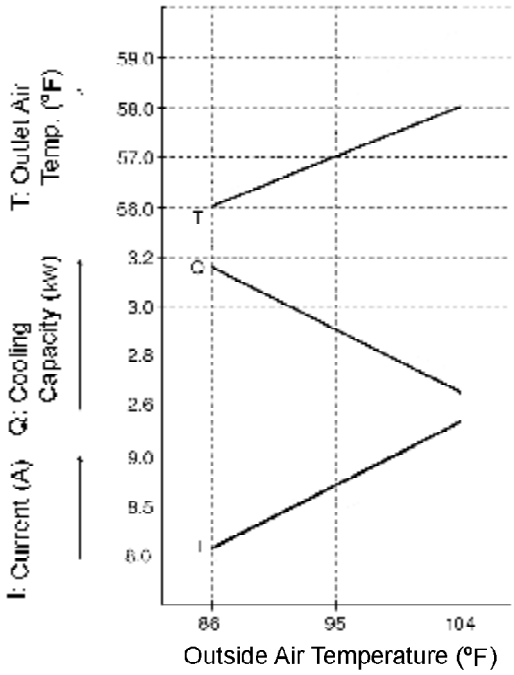


15. Technical Data

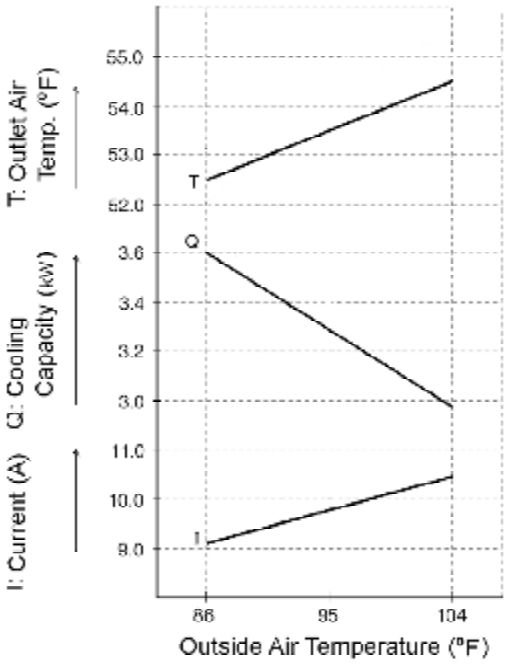
15.1. Operation Characteristics.

15.1.1. CW-XC103VU.

- Cooling Characteristics Vs. Outdoor Temperature.

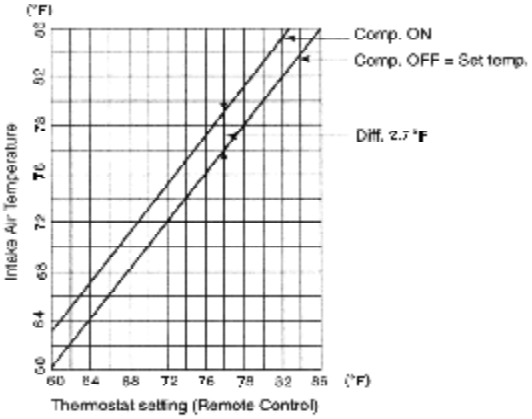


15.1.2. CW-XC123VU.



15.2. Thermostat Characteristics.

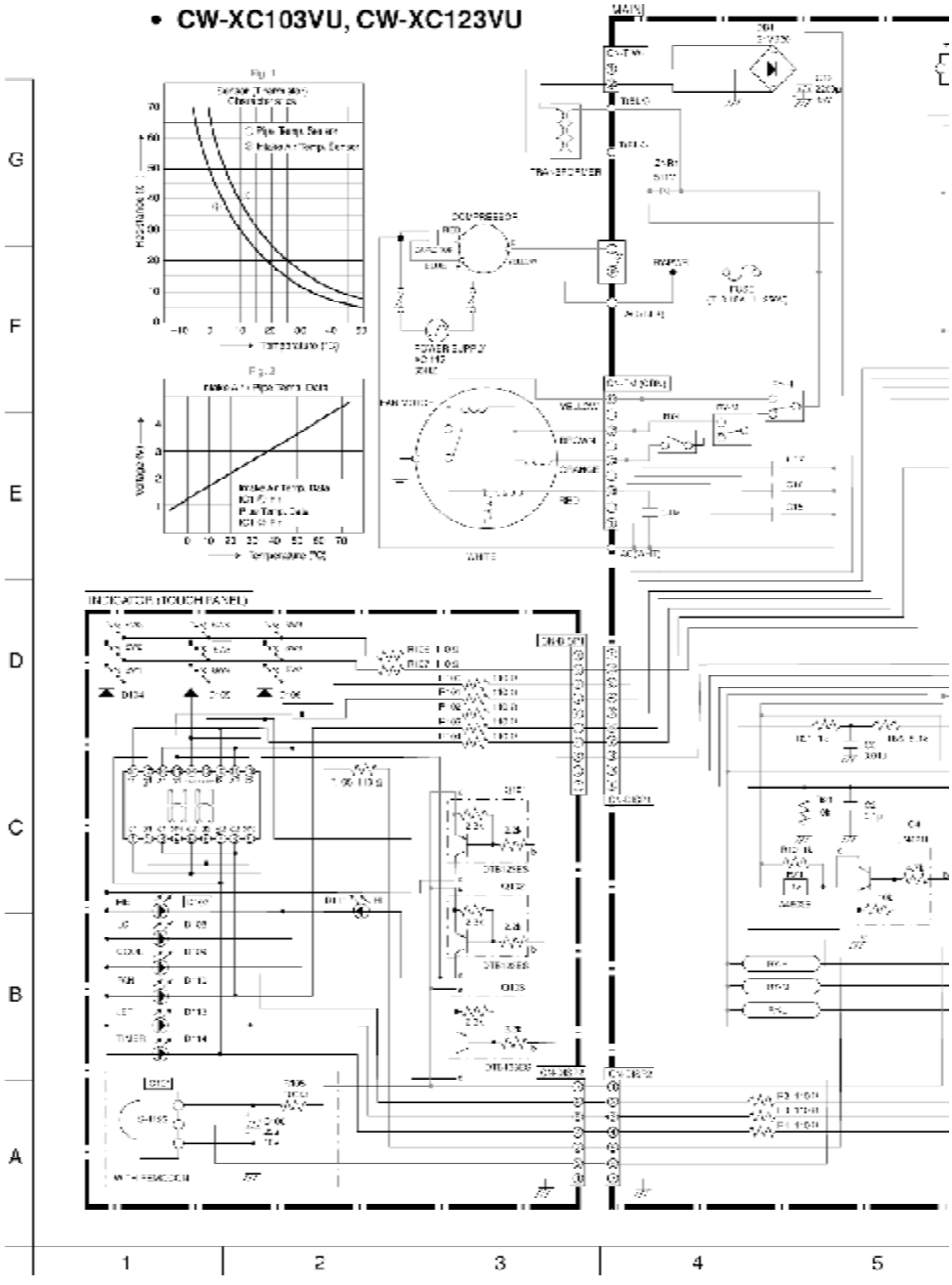
- Cooling.

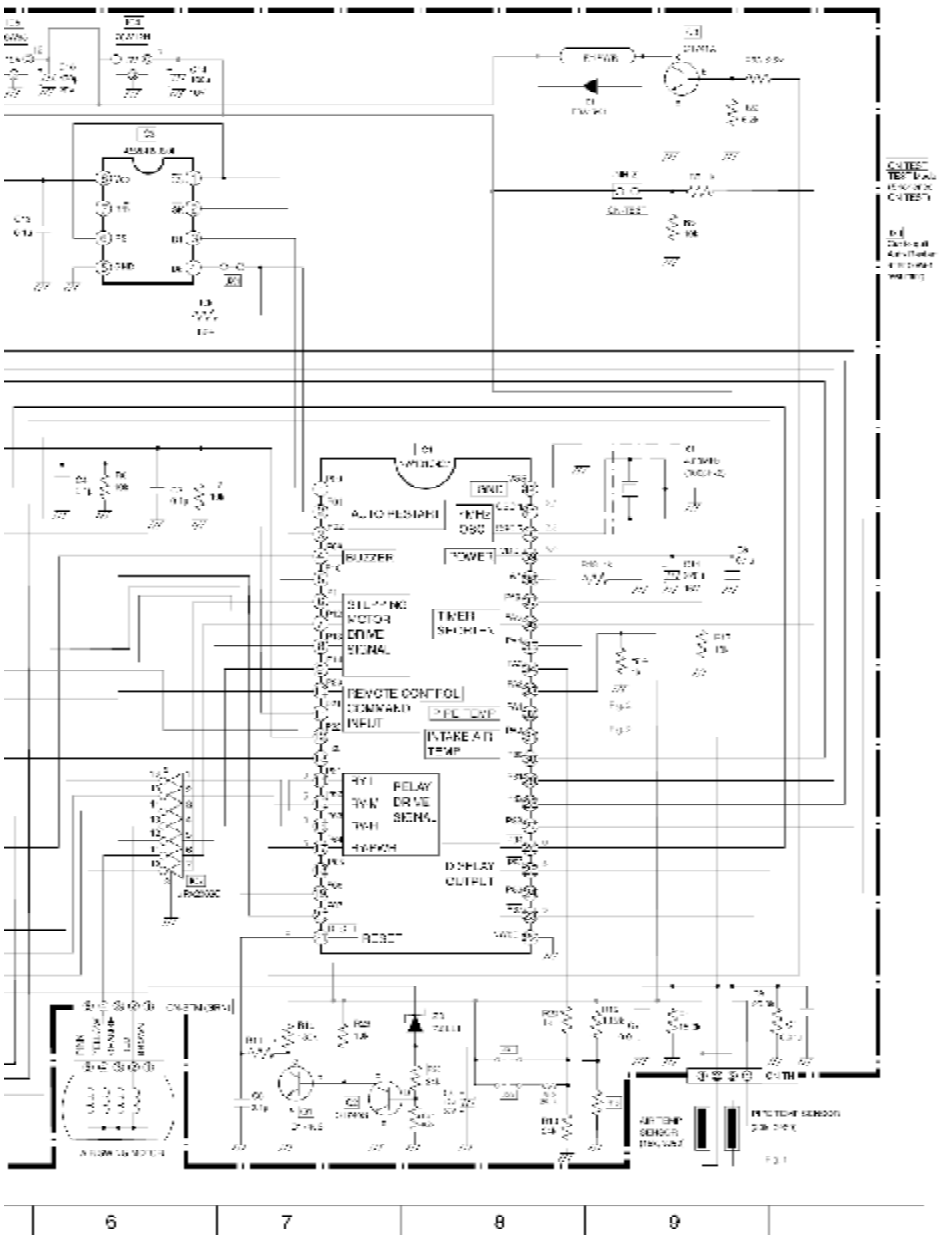


16. Electronic Circuit Diagram

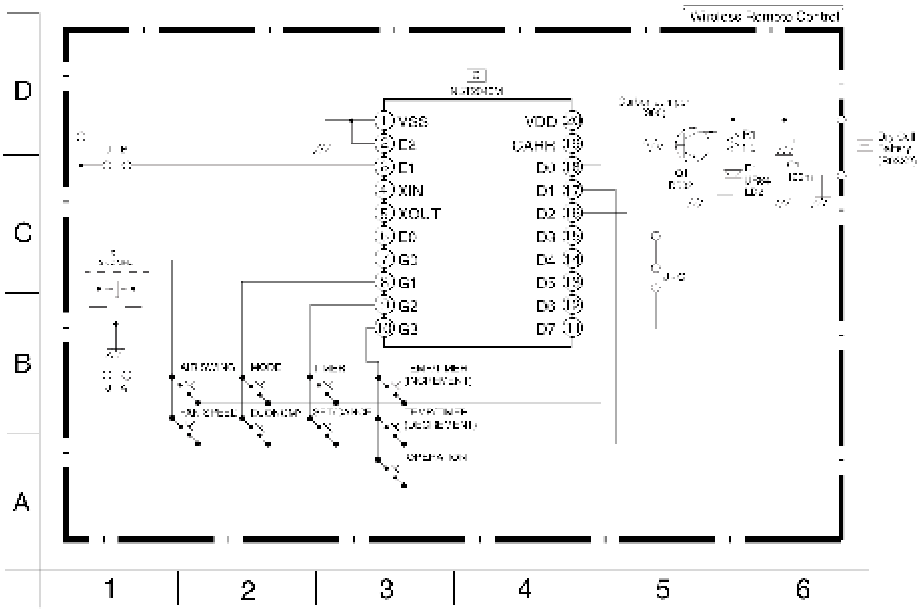
16.1. Electronic Circuit Diagram (Main Unit).

- **CW-XC103VU, CW-XC123VU**





16.2. Electronic Circuit Diagram (Remote Control).



16.3. How to use electronic circuit diagram.

Before using the circuit diagram, read the following carefully.

- Voltage measurement

Voltage has been measured with a digital tester when the fan is set at high fan speed under the following conditions without setting the timer.

Use them for servicing.

Voltage indication is in red.

	Intake air temperature	Temperature setting	Discharge air temperature	Pipe temperature
Cooling	27°C	16°C	17°C	15°C

- Indications for resistance

- a. K...K Ω

b. W...WATT

c. M...M Ω

d. Not indicated...1/4W

- Type

Not indicated	Carbon resistor Tolerance (+-) 5%
	Metal oxide resistor Tolerance (+-) 1%

- Indications for capacitor

Unit	- ... F -P...pF
Type	-Not indicated...ceramic capacitor -(S)...S series aluminium electrolytic capacitor -(Z)...Z series aluminium electrolytic capacitor -(SU)...SU series aluminium electrolytic capacitor -(K)...K series aluminium electrolytic capacitor -(P)...P series polyester system -(SXE)...SXE series aluminium electrolytic capacitor -(SRA)...SRA series aluminium electrolytic capacitor -(KME)...KME series aluminium electrolytic capacitor

- Diode without indication...MA165

- Circuit Diagram is subject to change without notice for further development.

16.4. Timer Table

Name	Time	Test Mode (Shortened CN-TEST pin)	Remarks
Hour Timer	1 hr. 10 min. 1 min.	1 min. 10 sec. 1 sec.	
Time delay Safety Control	2 min. 58 sec.	0 sec.	
Forced Operation	60 sec.	0 sec.	
Time Save Control	7 min.	42 sec.	
Freeze Prevention Control	3 min.	0 sec.	
Compressor Reverse Rotation Detection	2 min.	0 sec.	
Starting Current Control	1.6 sec.	0 sec.	
Random Auto Restart Control	0 ~ 62 sec.	0 ~ 6.2 sec.	Add value to Time Safety Contr

[MAICO] Printed in Malaysia

1 SAFETY PRECAUTIONS

Please observe these following safety precautions when using your air conditioner.

- Failure or negligence in observing these safety precautions could cause fire, electrical shock or personal injury.

This symbol (with a white background) denotes an action that is **PROHIBITED**.

These symbols (with a blue background) denote actions that are **COMPULSORY**.

INSTALLATION PRECAUTIONS

- Due to the weight of this product, we recommend that you have a helper to assist in the installation. To avoid injury, use the proper method of lifting. Avoid any sharp edges.
- Make sure the window frame to be used can properly support this product.
- This product must be installed in accordance with all local codes and ordinances.
- Do not install the unit in places where inflammable gas, fumes or soot may be generated.

OPERATION PRECAUTIONS

- Operate your air conditioner from a stable 115 volt AC supply.
- Plug into a separate 15 amp grounded outlet only.
- Use of extension cords
  Avoid using extension cords. If there are no alternatives, ensure that the cord is a UL listed 3-wire grounding type, rated 125 volts with a minimum current-carrying rating of 15 amps, number 14 or heavier wire.
- Use a 15 amp time delay fuse or a circuit breaker.
- Do not switch off by unplugging the power plug while it is operating. Press the OFF/ON pad to “OFF” before unplugging.

OPERATION PRECAUTIONS

WARNING This sign warns of risk of death or serious injury.

- Do not modify the length of the power cord or use an extension cord.
- Do not touch or operate with wet hands. Do not modify or damage the cord.
- Do not turn on the unit by inserting the power plug. Do not switch off the unit by pulling out the power plug.
- Avoid an extended period of direct airflow.
- Do not insert sticks, fingers or other objects into the unit.
- Do not try to repair the unit yourself.

- Plug in properly before operating and use a specified power cord.
- If abnormal conditions (burnt smell, etc) occur, switch off and remove the power plug.

CAUTION This sign warns of injury or damage to property.

- Do not use the unit for other purposes, than its intended use.
- Do not remove the power plug by pulling the cord.
- Do not block the air intake and outlet vanes.
- Do not splash or direct water at the unit
- Do not expose the unit to direct sunlight during operation.
- Do not operate the unit without the air filter installed or when the front intake grille has been removed.
- Do not place any objects on the unit.
- Do not operate any combustion equipment near the unit’s airflow area.

- Switch off the breaker and remove the power plug from the socket if the unit will not be operated for a long period.
- Pay attention to any damages on the unit caused by extensive usage.
- Ventilate the room occasionally where the unit is installed.
- Remove the power plug when cleaning the unit.

POWER SUPPLY

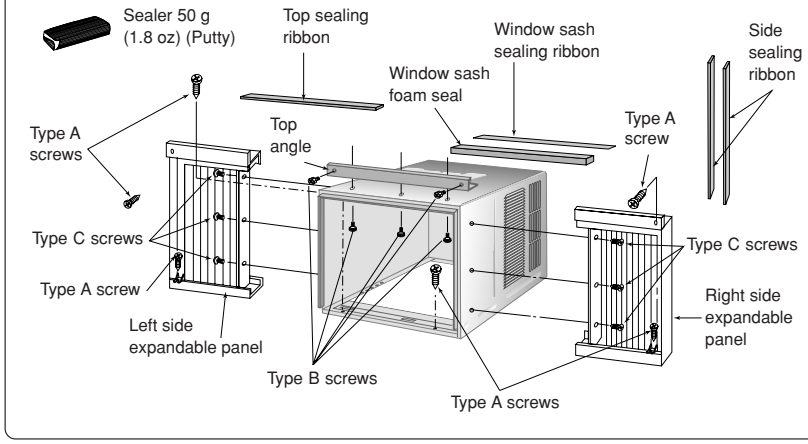
Time Delay Fuse : 15 Amps
Rated Voltage : 115V

• Socket Type

• Line Cord Plug

2 AIR CONDITIONER INSTALLATION

INSTALLATION BOX CONTENTS



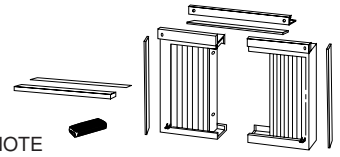
SCREW FURNISHED

Type A (Qty 6)	Type B (Qty 5)	Type C (Qty 6)
Wood Screw	Machine Screw	Tapping Screw

SUGGESTED TOOL LIST

- Medium sized screwdriver (#2 Phillips)
- Tape Measure
- Pencil
- Level
- Knife or Scissor

ACCESSORIES

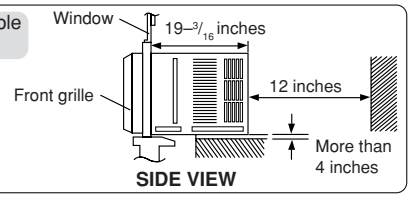


(6 pcs) (XTN5D25A)
(5 pcs) (CWH4580211)
(6 pcs) (XTT4D8C)

NOTE
Check that none of the accessories are missing.

SELECT THE BEST LOCATION

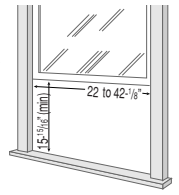
(Single or Double hung window)



SIDE VIEW

WINDOW REQUIREMENTS

- Hot sun rays hitting the outside surface of the cabinet will create considerable heat load. If the outside of the cabinet is exposed to direct sunlight, consider building an awning to shade the cabinet while providing ample area for the heated air to be exhausted from the condenser (both sides) and the top.



This unit is designed for installation in standard double hung windows.

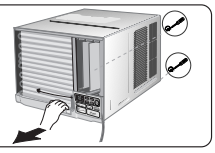
NOTE

The unit may also be installed “through the wall”. You should, however, observe standard carpentry practices and frame the opening without violating local ordinances.

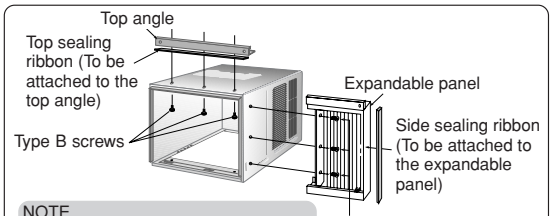
INSTALLATION PROCEDURES

① Remove the rear cabinet screws and save for later use.

② Slide the chassis out from the cabinet.



HOW TO ASSEMBLE THE EXPANDABLE PANELS


Top angle
Top sealing ribbon (To be attached to the top angle)
Type B screws
Expandable panel
Side sealing ribbon (To be attached to the expandable panel)
Type C screws

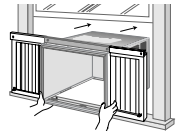
NOTE
This procedure applies to left and right of assembling expandable panel.

- Attach the top angle to the cabinet using screw type B (3 pcs).
- Insert expandable panels to cabinet sides as shown.
- Secure the first fold of expansion panel to cabinet using screw type C (3 each).

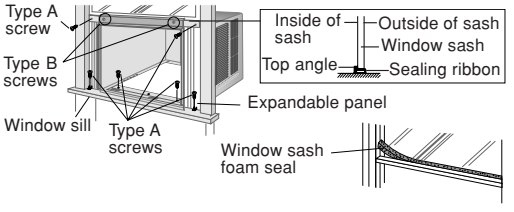
CABINET INSTALLATION

① Cut the “Sealing Ribbon” to the proper length, and attach it along the bottom edge of the bottom window sash.

② To prevent condensation water from dripping inside, the cabinet should be installed level or very slightly tilted to the outside.



③ Secure the cabinet using screws.



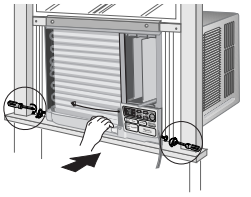
- Expand the expandable panel fully into the grooves of the window frame, secure the expandable panel, left, right and top mounting frames to the bottom of the window sash using 4 screws type A and 2 screws type B.
- Secure the cabinet using wood screws type A.
- Cut the window sash foam seal to the proper size and seal the opening between the top of the inside window sash and the outside window sash.

Note : If a gap exists between the unit and window sash, you may use “Sealer” supplied with the installation kit for a better seal.

CHASSIS INSTALLATION INTO THE CABINET

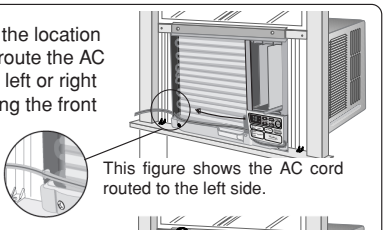
① Slide the chassis into the cabinet.

② Reinstall the cabinet screws.
Secure the cabinet to chassis by using screws (from rear cabinet).



INSTALLATION OF THE FRONT GRILLE

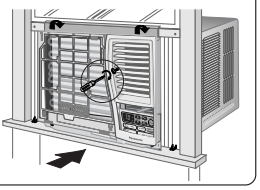
Depending upon the location of the AC outlet, route the AC cord to either the left or right side while installing the front grille.



This figure shows the AC cord routed to the left side.

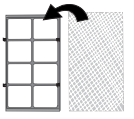
① Place the front grille on the cabinet first.

② Secure the front grille to the main chassis using screw provided.

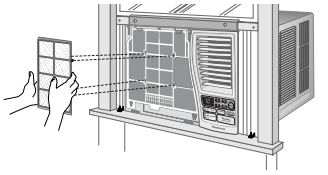


INSERT THE filter

Attach the filter (part no. CZ-SF6P) to the frame.



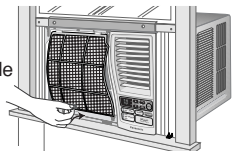
Slot in the filter and the frame (part no. CZ-SFW6P) to the front grille.



The filter and the frame can be obtained separately from your nearest servicenter.

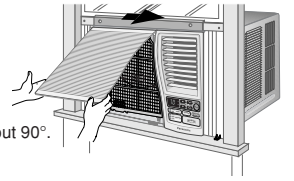
INSERT THE AIR FILTER

Attach the air filter to the intake grille



PLACE FRONT INTAKE GRILLE OVER THE FRONT GRILLE

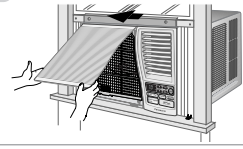
Slide the front intake grille slightly to the right to reattach the tabs and then push it down to close tight.



REMOVAL OF FRONT GRILLE

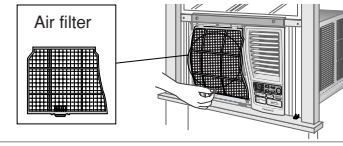
① Remove the front intake grille.

Pull up the front intake grille about 90° and slide it slightly to the left to unhook the tabs.



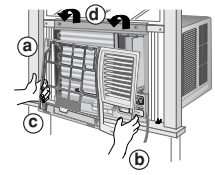
② Remove the air filter.

Tilt up and pull out the air filter by the holder.



③ Remove the front grille.

ⓐ Remove the adhesive tape from all sides of the front grille.
ⓑ At bottom right side of the front grille, press inward on cabinet near the power cord, and pull the grille outward to the right until right tab releases.
ⓒ At the bottom left side, push inward on cabinet and pull the grille outward to the left to release the left tab.
Do not pull the bottom edge toward you more than 3 inches to prevent the two top tabs from damage.
ⓓ Slide the front grille upwards to free the two top tabs from slots at the top of the cabinet.

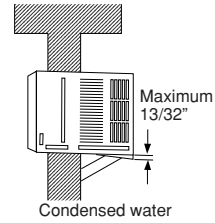


HOW TO ATTACH THE DRAIN PAN (OPTIONAL)

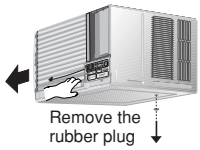
Condensed water drainage

This air conditioner employs a “Slinger-Up System” which is designed to splash the condensed water on the condenser coil for maximum cooling efficiency, thus producing a splashing sound. If the splashing sound annoys you, you can provide an outside drainage by using the following procedure which may, however, cause a small loss of performance.

Note: The cabinet should be installed tilted slightly lower to the rear for necessary condensate drainage. (Max. 13/32”)



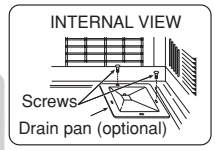
① Remove the rubber plug and slide the chassis out from the cabinet.



② Install the optional drain pan (part no. CWH40175).

Install the drain pan at the right corner of the cabinet using 2 screws (part no. CWG86C733).

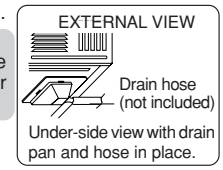
Note
The drain pan (part no. CWH40175) can be obtained from nearest servicenter.



③ Connect a drain hose (optional).

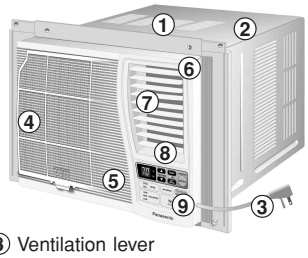
Fit the drain hose to the drain pan.

Note
Drain hose or tubing can be purchased locally to satisfy your particular needs.



④ Slide the chassis back into the cabinet.
Reinstall the cabinet screws.
Secure the cabinet to chassis by using screws.

MAIN UNIT



① Air inlet louver
② Cabinet
③ Power cord
④ Air filter
⑤ Front intake grille
⑥ Front grille
⑦ Vertical airflow direction vane (Airflow direction adjustment up-down).
The vertical airflow direction vane is controlled by rotating the horizontal vane forward or backward.

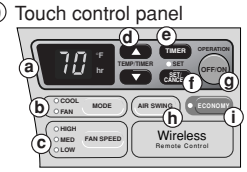
⑧ Ventilation lever

CLOSE ▬ VENT ▬ OPEN

The ventilation lever must be in the CLOSE position in order to maintain the best cooling conditions. When fresh air is necessary in the room, set the ventilation lever to the OPEN position. The damper is opened and room air is drawn out.

TYPES OF SIGNAL SOUND
One long “Beep” and one short “Beep”. (Sound from the main unit.)

⑨ Touch control panel



ⓐ Display Panel
ⓑ MODE selection pad
ⓒ FAN SPEED selection pad
ⓓ TEMPERATURE/TIMER setting pad
ⓔ TIMER pad
ⓕ Timer SET/CANCEL pad
ⓖ OPERATION OFF/ON pad
ⓗ AIR SWING pad
ⓘ ECONOMY pad

3 PART IDENTIFICATION

ACCESSORIES

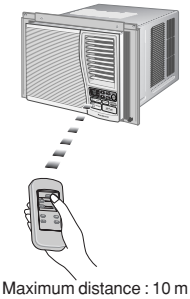
- Remote control
- Two R03 dry-cell batteries
- filter and frame

REMOTE CONTROL

① Signal Transmitter
② OPERATION button
③ TEMPERATURE/TIMER setting button
④ TIMER button
⑤ TIMER SET/CANCEL button
⑥ MODE selection button
⑦ ECONOMY Button
⑧ AIR SWING button
⑨ Fan Speed Selection Button

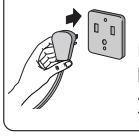
Be sure to observe the following:

- Aim remote control at control panel on air conditioner when operating.
- Do not drop or throw the remote control.
- Do not place the remote control in a location that is exposed to direct sunlight or next to a heating unit or other heat sources.



• Maximum distance : 10 m

4 PREPARATION BEFORE OPERATING



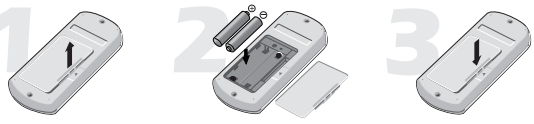
WARNING

Ensure that the power plug is securely inserted.
A loose plug may cause a fire or an electric shock.

NOTES

- If the unit is not going to be used for an extended period of time, remove the power plug. Otherwise, approximately 2.5W of electricity will be used even if the unit has been turned off using the remote control.
- If operation is stopped, and to be restarted immediately, the unit will resume operation only after 3 minutes.

HOW TO INSERT BATTERIES



Open the cover. Insert the two batteries. Close the cover.

CAUTION

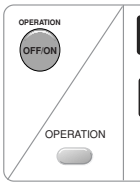
Do not use rechargeable (Ni-Cd) batteries because such batteries differ from the standard dry cell batteries in shape, dimension and performance.

ABOUT THE BATTERIES

- The batteries can be used for approximately one year.
- Be sure to replace the batteries with two new identical batteries.
- Remove the batteries if the air conditioner will not be used for an extended period of time.

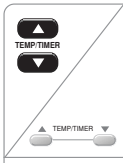
5 AIR CONDITIONER OPERATION

OPERATING THE UNIT



Start operation by pressing OPERATION.
The operation will turn on and the display panel will light up.
To stop the operation, press the OPERATION again.
The unit will stop operating and the display panel light will turn off.

SETTING DISPLAY TEMPERATURE



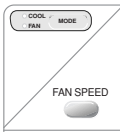
Display will change according to the setting.

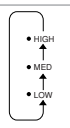
Press TEMP/TIMER ▲ or ▼ to set the display temperature.
The temperature can be set between 60°F and 86°F.
Recommended temperature: 75°F ~ 78°F.

NOTES

- The latest temperature setting will be memorized and will appear on the display the next time it's turned on.
- The display temperature selection is for display purpose only and does not indicate actual room setting temperatures. Your room temperature may not necessarily match the displayed temperature.

SELECTING FAN SPEED



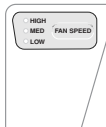


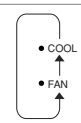
Press FAN SPEED to choose the speed level of the fan.
The indicator will light up and the "beep" sound will indicate changing setting.

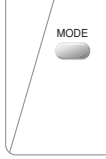
NOTE

- The latest fan speed setting will be memorized and the indicator will light up the next time the unit is turned on.

SELECTING OPERATION MODE





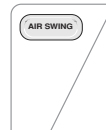


Press MODE to select the desired operation .
The indicator will light up and a "beep" sound will indicate changing setting.

COOL mode
To set room temperature to your preference of cooling comfort.

FAN mode
To provide air circulation without cooling the room.
During Fan operation, temperature setting cannot be selected.

ADJUSTING HORIZONTAL AIR FLOW DIRECTION

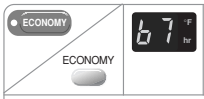


Press to select AIR SWING.
The air circulation will automatically move the horizontal louvers left and right for better air distribution around the room.

NOTE
Using your hands to adjust the direction may cause the louvers to malfunction. If this happens, stop operation immediately and restart.

NOTE
Vertical adjustment of the airflow direction is done manually.

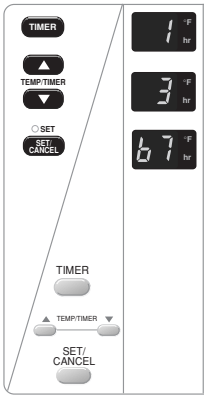
ECONOMY OPERATION



To reduce power consumption:
- Press ECONOMY.
- To cancel this operation, press once more.

ECONOMY
Recommended for electricity cost saving. When economy button is pressed, target temperature is shifted up 1°F, this will reduce operating time of the compressor and therefore reduce power consumption. It may, however, take a little longer for the compressor to cycle on and thereby increase the room temperature slightly. Economy mode will override your current set fan speed to "LOW". However, the display will still show the current set fan speed. Compressor stops when the room temperature reaches the target temperature. It turns on again when the room temperature rises. When power failure occurs, the economy setting is canceled. Once power is resumed, reset the economy setting.

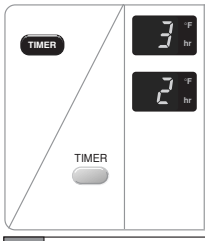
SETTING THE OFF TIMER



When the air conditioner in operation:
Press the TIMER button.
The SET/CANCEL indicator light will blink awaiting for setting.
Press the TEMP/TIMER ▲ or ▼ button until the preferred hour of operation is reached.
Press the SET/CANCEL button to complete the setting. At this time, the SET/CANCEL indicator light is steady instead of blinking.

NOTE
The hour reading will change back to the set temperature reading after 10 seconds. (You can also revert to temperature setting immediately by pressing the TEMP/TIMER ▲ or ▼ buttons again.)

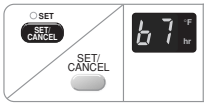
CHECK TIMER SETTING DURING OFF TIMER



Press the TIMER button to check the remaining programmed timer setting. The figure will be displayed for 10 seconds then will automatically switch back to temperature setting.

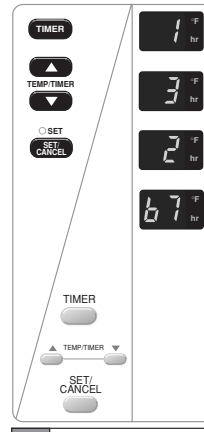
NOTE
The timer figure will change according to the time remaining (if you set it to turn off 3 hours from now, the timer will show "2" at an hour later).

CANCEL TIMER SETTING DURING OFF TIMER



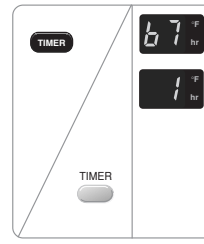
Press the SET/CANCEL button to cancel the timer setting. The SET/CANCEL indicator light will turn off. However the temperature remains displayed.

SETTING THE ON TIMER



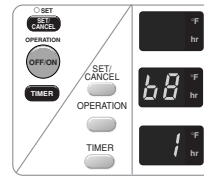
When the air conditioner in operation:
Press the TIMER button. The TIMER indicator light will blink to await for setting.
Press the TEMP/TIMER ▲ or ▼ button until the desired hour for operation is reached. Press the SET/CANCEL button to complete the setting. At this time, the TIMER indicator light is steady instead of blinking.
The display will show the remaining hour to the start of the operation (if you set to turn on 3 hours from now, the timer will show "2" at an hour later).
When set time is reached, the air conditioner starts the operation under the previous setting mode and the TIMER indicator will light off. Now, the previous set mode and the fan speed will light up. Simultaneously, the display will show the setting temperature.

CHECK TEMPERATURE/MODE/FAN SPEED SETTING DURING ON TIMER



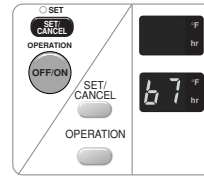
Press the TIMER button. The TIMER indicator light will blink and the previous temperature setting will be shown. Simultaneously, MODE and FAN SPEED indicator will light up. This indication will last for 5 seconds, and then the display will show the remaining time. MODE and FAN SPEED indicator light will turn off. At this time, the TIMER indicator light is steady instead of blinking.

CHANGE TEMPERATURE/MODE/FAN SPEED SETTING DURING ON TIMER



Press the SET/CANCEL button to cancel the timer setting.
Press the OPERATION. Set the desired mode and the fan speed. Then press OPERATION button to stop operation. Start the TIMER setting again by repeating the step from the "Setting the on timer" procedures).

CANCEL TIMER SETTING DURING ON TIMER

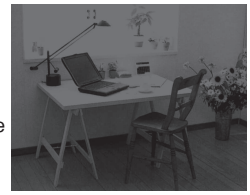


Press the SET/CANCEL button to cancel the timer setting. The SET/CANCEL indicator light will turn off. To operate the air conditioner before reaching the set timer:
- Press the SET/CANCEL to cancel the timer.
- Press the OPERATION button to turn on the unit.

Model			CW-XC103VU	CW-XC123VU
COOLING CAPACITY		Btu/h	10,000	11,500
ELECTRICAL RATING	Phase		Single	←
	Frequency	(Hz)	60	←
	Voltage	(V)	115	←
	Current	(Amps)	8.7	9.8
	Input	(W)	980	1120
EER		(Btu/W.h)	10.2	←
MOISTURE REMOVAL		(Pints/h)	2.5	3.0
ROOM AIR CIRCULATION		(Cf/min)	320	330
DIMENSIONS	Height	cm (inches)	37.5 (14-25/32″)	←
	Width	cm (inches)	56 (22-1/16″)	←
	Depth	cm (inches)	60.6 (23-27/32″)	←
NET WEIGHT		kg (lb)	35 (77)	←
GROSS WEIGHT		kg (lb)	39 (86)	←
NOISE LEVEL	Indoor (Hi/Lo)	dB (A)	50/46	51/47
	Outdoor (Hi/Lo)	dB (A)	57/54	58/55

* Specifications are subject to change without notice for further improvement.

RANDOM AUTO RESTART



Random Auto Restart
- Operation will automatically resume under the previous operation mode.
- If the unit was set to TIMER mode, operation will not resume automatically.
- When power failure occurs, the timer setting is canceled. Once power returns, reset the timer.

ENERGY SAVING HINTS

- Setting the temperature 1°F higher save 10% electricity costs.
- Regular cleaning of the air filter preserves efficiency.
- Keeping openings closed keeps cool air in and hot air out.
- Avoid direct sunlight and heat.
- For health reasons do not overcool your room.
- Your air conditioner's cooling capacity should match your room size.

⚠ CAUTION Always turn off the air conditioner and the main power supply before clean the unit.
Switch off the power supply if the unit is not going to be used for a long period of time.

- Clean the cabinet, front grille with a mild soap or detergent and lukewarm water.
- The front intake grille can be easily removed for cleaning purposes. Gently wash it with water and a sponge.
- The filter can be easily cleaned using a vacuum cleaner. Vacuum the front of the filter and then wash the rear with water. If it is badly soiled, wash with a mild household detergent.
  It is recommended to replace the filter (part no.CZ-SF6P) every 3 months.
- Do not clean with benzene, thinner, scouring powder or cloth soaked in caustic chemicals.
- If the unit is extremely dirty, heat transfer is less efficient and the unit may not cool effectively. Contact your nearest servicenter for an annual check.
- If the air filter becomes clogged with dust, the cooling capacity will drop, and 6% of the electricity used to operate the air conditioner will be wasted.

NOTE
Do not dry the front panel or the air filter in direct sunlight. (Exposure to direct sunlight may discolor or deform the panel.)

PRE-SEASON INSPECTION

- *Is the discharged air cold?*
  After 15 minutes of operation, it is normal for the temperature difference between intake and outlet air to be more than 14.4°F for cooling.
- *Are the air intake and outlet vanes of the indoor and outdoor side obstructed?*
- *Are the remote control batteries weak?*

RECOMMENDED INSPECTION

- Usage over several seasons will reduce performance as the unit becomes dirty.
  A dirty unit may produce foul odors and dust may clog the dehumidifying drainage.
  Seasonal inspection is recommended in addition to regular cleaning. Consult your nearest servicenter.

BEFORE Check the following points before calling for repairs or service. If the malfunction persists, please contact your nearest servicenter. For assistance, please call: 1-800-211-PANA (7262) or send e-mail to: consumerproducts@panasonic.com

POSSIBLE CAUSES OF THE ABOVE PROBLEMS

Condition ① If the unit is too noisy during operation.

The following sounds are normal during operation:
- A low humming sound indicating that the unit is operating.
- A soft clicking sound when the compressor turns on and off.
- A flowing sound due to circulation of the refrigerant when the compressor is turned on.
- A splashing sound indicating condensation in the condenser coil.

If you hear other noises, please consult your nearest servicenter.

Condition ② If the unit does not operate.
- The main power cord is not plugged in.
- The internal fuse has blown.
- The main circuit breaker has tripped.
- Remote control batteries are weak.

Condition ③ If the unit does not cool properly.
- The room is too big for the unit's cooling capacity.
- The ventilation lever is set to OPEN.
- The air circulation is impeded by curtains or furniture.
- After 15 minutes of operation, it is normal for the temperature difference between intake and outlet air to be more than 14.4°F for cooling.

Condition ④ If water drips off the rear of the unit.
- Humidity is high.
- Condensed water is overflowing.
- To rectify the problem, mount a drain pan to the unit.

Condition ⑤ If water drips inside the room.
- The unit is tilted inward. To rectify this, tilt the unit slightly outward.
- Mount the optional drain pan if you prefer.

If the trouble persists after you have checked all of these, call your authorized Panasonic dealer or servicenter.
Service information can be obtained 24 hours/day by calling: 1-800-211-PANA (7262)
To expedite the repair of your air conditioner:
• Please have your proof of purchase.
• List all symptoms the unit is exhibiting.